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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/425,668	10/22/1999	HIROYUKI NAKAMURA	MTS-V03174	9874

7590 06/06/2002

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EXAMINER

SMITH, SHEILA B

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 06/06/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/425,668

Applicant(s)

H. NAKAMURA ET AL.

Examiner

Sheila B. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 6, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimo (U.S. Patent Number 5,193,218) in view of Kang (U. S. Patent Number 6,034,990).

***Regarding claims 1, 4, and 7,*** Shimo discloses essentially all the claimed invention as set forth in the instant application, further Shimo discloses signal transmission reception switching apparatus. In addition Shimo discloses a antenna terminal connected to an antenna (4), a transmission terminal connected to a transmission circuit (1), a reception terminal connected to a reception circuit (2), a first switching element (11) that turns on or off the connection between antenna terminal and transmission terminal, a second switching element (13) that turns on or off the connection between the antenna terminal and reception terminal, and a filter (3) as exhibited in figure 3 and as disclosed in column 1 lines 50-62. However, Shimo fails to specifically disclose a filter means inserted between first switching element and antenna terminal and filtering means attenuated harmonic contents and phase characteristics increase the impedance.

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In the same field of endeavor Kang discloses a digital radio transmission and reception system applying a direct modulation and demodulation method. In addition Kang discloses a filter means (52) inserted between first switching element (45) and antenna terminal (10) exhibited in figure 4, and filtering means (52) attenuated harmonic contents and phase characteristics increase the impedance as exhibited in figure 1 and disclosed in column 4 lines 19-22 and lines 52-56.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shimo with a filter means inserted between first switching element and antenna terminal and filtering means attenuated harmonic contents and phase characteristics increase the impedance as taught by Kang for the purpose of conducting transmission and reception simultaneously.

**Regarding claims 3 and 6**, Shimo discloses everything claimed, as applied above (see claim 1) additionally, Shimo discloses a first switching element comprises a diode (11) and a second switching element comprises a diode (13) and a quarter-wave line (24) as disclosed in column 6 lines 5-17.

3. Claims 2, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimo (U.S. Patent Number 5,193,218) <sup>in view of Kang and further</sup> in view of Kitakubo (U. S. Patent Number 5,822,684).

**Regarding claims 2 and 5**, <sup>and Kang</sup> Shimo discloses everything claimed, as applied above (see claim 1) however Shimo fails to disclose a filtering means attenuated harmonic contents and phase characteristics increase the impedance.

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In the same field of endeavor, Kitakubo further discloses a antenna switching circuit and wireless communication system. In addition Kitakubo discloses a filtering means (6) attenuated harmonic contents and phase (5) characteristics increase the impedance as exhibited in figure 1 and disclosed in column 1 lines 29-34.

Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Shimo by specifically providing for the use of a filtering means attenuated harmonic contents and phase characteristics increase the impedance as taught by Kitakubo for the purpose of conducting transmission and reception simultaneously.

***Citation of Pertinent Art***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Kawanami et al.*** (U. S. Patent Number 5,896,563) discloses transmitting and receiving switch comprising a circulator and an automatic changeover switch which includes an impedance circuit;

***Lee et al.*** (U. S. Patent Number 6,108,313) discloses transmitter/receiver for use in multichannel time division duplexing system providing isolation between transmission channel and reception channels;

***Estes et al.*** (U. S. Patent Number 6,289,204) discloses integration of a receiver front-end in multiplayer ceramic integrated circuit technology;

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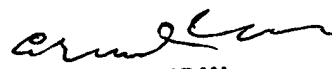
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (703)305-0104. The examiner can normally be reached on Monday-Thursday 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6306 for regular communications and (703)308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

S. Smith  
June 3, 2002

  
EDWARD F. URBAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600